

**VIRTUAL STAR NETWORK****Abstract of the Description**

5           A system (20) for communicating on an optical wavelength division  
multiplexed ring network (22) using terminal nodes (26) and a head-end node (24) is  
provided. Each terminal node has a communication subsystem (30) to receive and to  
transmit signals at a particular wavelength, a tributary subsystem (34) to enable a  
plurality of devices to communicate over the network, and a multiplexing subsystem  
10 (32) to channel signals between the devices and the ring network. The head-end node  
includes a demultiplexer (72) to isolate signals received from the terminals, an integral  
cross-connect module (58) to determine output wavelengths at which to transmit  
received signals, and a multiplexer (70) to combine the received signals for  
transmission on the network.